

IN THE CLAIMS:

1. (Currently amended) An imaging module for a still digital image capturing device that enables a user to capture a single image of an object, comprising:

an electronic imaging sensor device comprising a plurality of pixels;

an electronically actuatable shutter device comprising a plurality of individually addressable and actuatable shutter elements, each of said plurality of individually addressable shutter elements substantially corresponding to at least one of said plurality of pixels;

a storage medium that stores a plurality of shutter exposure patterns, each shutter exposure pattern defining a predefined group of shutter elements to be actuated for illumination of said imaging sensor device; and

a controller that allows a user to select one of said stored plurality of shutter exposure patterns, and which applies [[a]] the selected shutter exposure pattern to said shutter device to allow light reflected from [[an]] the object whose image is to be captured to illuminate said imaging sensor through said selected shutter exposure pattern, wherein the digital still image capturing device captures only a single image of the object in response to the application of the selected shutter exposure pattern.

2. (Original) The apparatus of claim 1, wherein said imaging sensor device comprises a two-dimensional array of pixel elements and said shutter device comprises a LCD element comprising a two-dimensional array of individually addressable and actuatable shutter elements corresponding to said two-dimensional array of pixel elements.

3. (Currently amended) An imaging module for a digital still image capturing device, comprising:

a shutter device comprising a plurality of individually addressable shutter element pairs, wherein each pair of shutter elements consists of a first shutter element having a first polarization orientation and a second shutter element having a second polarization orientation that is substantially orthogonal to said first polarization orientation; and

an electronic imaging sensor device having a two-dimensional array of pixel sensors, wherein each shutter element pair corresponds to a pair of pixel sensors

~~a two-dimensional array of individually addressable and actuatable shutter elements and an electronic imaging sensor device having a two-dimensional array of pixel sensors, wherein a pixel unit of said imaging module comprises:~~

~~— a first combination polarizing shutter element and pixel sensor, with said first polarizing shutter element being of a first polarization orientation; and~~

~~— a second combination polarizing shutter element and pixel sensor, with said second polarizing shutter element being of a second polarization orientation that is substantially orthogonal to said first polarization orientation; wherein said pixel unit is individually addressable and actuatable such that each pixel unit receives light from an object being imaged through both said first polarizing shutter element and said second polarizing shutter element to obtain a substantially non-polarized image.~~

4. (Original) The apparatus of claim 1, wherein said shutter device comprises a microelectromechanical shutter element comprising a two-dimensional array of individually addressable and actuatable shutter elements.

5. (Original) The apparatus of claim 1, further comprising a memory including an address storage capable of storing one or more shutter element addresses.

6. (Cancelled).

7. (Previously Presented) The apparatus of claim 1, wherein at least one of said shutter exposure patterns specify a plurality of exposure time periods corresponding to a plurality of shutter elements to be actuated.

8. (Original) The apparatus of claim 1, wherein said shutter device is formed on and is substantially co-planar with said imaging sensor device.

9. (Original) The apparatus of claim 1, wherein said shutter device is assembled with and substantially co-planar with said imaging sensor device.

10. (Cancelled)

11. (Cancelled)

12. (Previously Presented) The apparatus of claim 3, wherein said shutter device comprises a microelectromechanical shutter element comprising a two-dimensional array of individually addressable shutter elements.

13. (Previously Presented) The apparatus of claim 3, further comprising a memory including an address storage capable of storing one or more shutter element addresses.

14. (Previously Presented) The apparatus of claim 3, further comprising a memory including a pattern storage capable of storing one or more shuttering patterns that specify a plurality of shutter addresses of shutter elements to be actuated.

15. (Previously Presented) The apparatus of claim 3, further comprising a memory including a pattern storage capable of storing one or more shuttering patterns that specify a plurality of exposure times corresponding to a plurality of shutter elements to be actuated.

16. (Currently amended) A light shuttering method for a still image capturing device, comprising the steps of:

 providing an electronic imaging sensor device comprising a plurality of pixel elements;

providing an electronically actuated shutter device comprising a plurality of individually addressable and actuatable shutter elements, each shutter element substantially corresponding to at least one of said plurality of pixel elements;

providing a storage medium that stores a plurality of shutter exposure patterns, ~~each shutter exposure pattern defining a predefined group of shutter elements to be actuated for illumination of said imaging sensor device; and~~

providing a controller that allows a user to select one of said stored plurality of shutter exposure patterns, and which applies a selected shutter exposure pattern to said shutter device to allow light reflected from an object whose image is to be captured to illuminate said imaging sensor through said selected shutter exposure pattern; and
recording only one image in response to the application of the selected shutter exposure pattern.

17. (Original) The method of claim 16, wherein the providing said shutter device step comprises forming said shutter device on said imaging sensor device.

18. (Original) The method of claim 16, wherein the providing said shutter device step comprises providing a two-dimensional array of individually addressable shutter elements, wherein a pixel unit of said imaging sensor device is individually addressable, wherein a first shutter element of said pixel unit polarizes light according to a first polarization orientation and a second shutter element of said pixel unit polarizes light according to a second polarization orientation that is substantially orthogonal to said first polarization orientation, and wherein the method provides a substantially non-polarized light to said imaging sensor device.

19. (Original) The method of claim 16, further including a step of storing a shutter actuation pattern that specifies a plurality of shutter elements to be actuated during an image capture.

20. (Original) The method of claim 16, further including a step of storing a shutter actuation pattern that specifies a plurality of exposure time periods for a corresponding plurality of shutter elements.

21. (New) The apparatus of claim 1, wherein at least one of said shutter exposure patterns specifies a first group of shutter elements and a second group of shutter elements, wherein no shutter element included in the first group is included in the second group, and wherein said at least one of said shutter exposure patterns also specifies a first exposure time period for the first group of shutter elements and a second exposure time period for the second group of shutter elements, wherein the first exposure time period is greater than the second exposure time period.

22. (New) The apparatus of claim 21, wherein said at least one of said shutter exposure patterns further specifies a third group of shutter elements and third exposure time period for the third group of shutter elements, wherein the third exposure time period is greater than the first exposure time period.